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MASTER OF MILITARY STUDIES

TITLE:
An Analysis of Medical Ethic Practice by Union and Confederate Medical Departments During the American Civil War.

SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF MILITARY STUDIES

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Master of Military Studies Requirements for the Degree

Executive Summary

Title: An Analysis of Medical Ethic Practice by Union and Confederate Medical Departments During the American Civil War.

Author: LCDR Marc Herwitz, United States Navy

Thesis: Union and Confederate medical departments were limited to the knowledge of medicine at that time and while they generally delivered ethical medical care to white soldiers during the Civil War, the care delivered to African-American troops was substandard in comparison.

Discussion: The state of medicine and medical education at the time of the Civil War, while evolving, existed before its golden age that would come in the decades that followed the war. The capability to effectively treating systemic disease was limited as diagnosis was primarily symptomology based and pharmaceuticals at this time were just as likely to make one ill as to make one well. The death toll caused by communicable and systemic disease accounted for three quarters of all deaths for both sides during this conflict which was a caused predominantly by the general lack of proper sanitary practice as large numbers of troops were encamped in close quarter in periods of extreme weather and often without proper food and clothing. The death toll due to disease would later improve due to the formation of sanitary commissions and like organizations that assisted in improving public hygiene. As for surgery, the ability to provide complex surgical services was problematic as antiseptic practice and antimicrobial treatment were not known entities. Additionally, most surgeons performed only the most minor surgeries and were therefore unprepared for the types of surgery that would be needed for this war. Shortcomings in funding, supplies and manning especially early in the war impacted the quality of care that was rendered. The tempo of war often impacted the ability of doctors to provide timely care to service members as the dangers of entering an active engagement was often a fruitless endeavor. Due to do the inability to remove the wounded from the battlefield, many of the men suffered hours of sheer agony only to succumb to their wounds before help could be had. The close range battle with newly improved and more accurate armament resulted in great collateral tissue and bone damage for those not mortally wounded. As a result of these types of wounds, the lack of advanced surgical procedures and antimicrobial care, amputations became the most common and successful means of saving one's life while the greater public reflected a barbaric opinion to this intervention. Despite the large number of deaths, both sides showed benevolence for the care of warriors on both sides of the firing line.

Conclusion: Public perception of cruel and barbaric medical care for wounded Civil War soldiers is for the most part unfounded. Given the limited scope of medical knowledge of the day and limited experience for physicians at that time in invasive surgeries, the level of care that was delivered was remarkably good and in fact was far better than that which was delivered in the recent Crimean War. Most of the perceived ethical issues to be reviewed in this paper will be shown to be unfounded outside of outlying cases. However, an ethical violation that was found to have universally occurred existed with respect to the disparity of care provided to white soldiers from that provided their black counterparts.

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THE OPINIONS AND CONCLUSIONS EXPRESSED HEREIN ARE THOSE OF THE INDIVIDUAL STUDENT AUTHOR AND DO NOT NECESSARILY REPRESENT THE VIEWS OF EITHER THE MARINE CORPS COMMAND AND STAFF COLLEGE OR ANY OTHER GOVERNMENTAL AGENCY. REFERENCES TO THIS STUDY SHOULD INCLUDE THE FOREGOING STATEMENT.

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Preface

Research in the realm of medical ethics as it pertained to the care that was delivered during the American Civil War was undertaken so that the reported outcomes from wounds and conditions encountered by servicemen during the Civil War could be analyzed so that one can differentiate limitations in medical knowledge during this era and problems related to access or delay in care due to battlefield operations from true violations in medical ethics where blatant negligence and cruelty has been reported to occur. This paper will address the delivery of medical care during the war and evaluate it based on medical ethical standards of that day.

I would like to acknowledge the assistance I have received from Dr. Craig Swanson, Associate Dean of Academics and LTC Timothy Martin, USAF of the Command and Staff College, Marine Corps University for their mentorship and direction. I would also like to thank the Civil War Medical Museum in Frederick, MD., as well as Dr. Michael Echols of Tampa, FL. (www.braceface.com), Bonnie Brice Dorwart, M.D., author of *Death is in the Breeze*, Dr. Carol Reardon, the George Winfree Professor of American History at Penn State University and CDR Timothy Atmajian, MC, USN who provided me guidance and insight to the medical care that was delivered by the Union and Confederate medical departments as well as their prospective on the culture that existed with respect to the wounded during this time in history. Special thanks also goes to the librarians and resource assistants at the Gray Research Center of the Library of the Marine Corps for their support in gaining published resources and for assisting in the quality of this written document.

Introduction

The level of healthcare delivered at the time of the Civil War cannot be compared to contemporary healthcare in any form. Medical knowledge at that time, the means available to treat patients and the level of education and training for physician and surgeons cannot be rated against today's standards. Medicine at the time of the Civil War was in its infancy. The American Civil War was fought before the golden era of medical discovery that would occur in subsequent decades both in the United States and Europe. Still, this period of time was not devoid of innovation and improvements in medical education were occurring. In the end, however, "medical therapy had little to offer and was often as harmful as it was helpful."[1] Antibiotic therapy and sterile techniques were not yet a known entity. Anesthesia was not commonly utilized before the war. Having been introduced in October 1846 it was utilized "in the most desperate circumstances,"[2] and only for major surgery.

It was the lack of evidence based knowledge and effective therapeutics to treat the myriad of disease encountered by service members that led to the staggeringly high death toll in this conflict where "four times as many men died from diseases as from the wounds of battle."[3] With the states repealing the requirement of medical licensure in the decades prior to the war to counter the perception that only the elite could practice medicine, it allowed just about anyone during this era to "practice medicine" and call themselves a doctor.[4] Clearly public safety and competency were not variables considered with this change in law. Complicating issues further was the fact that other healthcare disciplines existed and provided alternative methods to patient care that differed from traditional medicine. These unorthodox medical practices included "eclectic medicine, botanic medicine, Thomsonianism and the Grahamites."[5] While much can be said about the shortcomings of traditional medicine at that time, the other disciplines were

generally not rooted in medical science so as a result patients fared even worse to their applied therapies.

Knowing that these disciplines would likely be a detriment to the needs of soldiers, the chiefs of both the Union and Confederate medical departments ensured that members of these disciplines would not be afforded privilege to provide care for service members during the Civil War. In response to the changes seen in medical licensure, medical societies emerged to differentiate medical school trained physicians from the irregular practitioners who were often referred to as "quacks."[6] One of such groups was the American Medical Association (AMA) whose platform was to enhance public opinion by reforming medical education. At its inception, it produced an important document known as the Code of Ethics of 1847 which would start to redefine standards of medical and ethical practice.

Background

Medical Education

Medical training leading up to the Civil War consisted of "a year of medical school in the United States generally lasted only four months and required only two years for graduation. In addition, American medical students customarily repeated the same courses during their second year that they had taken during this first."[7] In between the two years of study, medical schools often required medical students to have completed a three-year apprenticeship for graduation.[8] At the end of their formal education and apprenticeship, "examinations for graduation reflected the didactic nature of the institution" that students were taught at where "each faculty member administered a brief oral examination and a student graduated if he passed a majority of their examinations."[9]

While anesthetics were available in the early 1860s, few hospital based surgical training programs existed during this period of time. For those trained in surgery, few invasive surgeries took place since there was a high rate of morbidity following most of these procedures as many succumbed to post-operative wound infections.[10] Somehow without the skills necessary to provide needed care to the sick and battle wounded soldier, "American medical education produced army physicians who saved the lives of a higher proportion of wounded and sick soldiers than their European contemporaries."[11]

Competency and Care Review

Due to the different types of doctors that existed during this period of time and different levels of training and experience, it was necessary for the Union and Confederate medical departments to weed out providers that did not meet specified levels of competency. Both medical departments successfully implemented board examinations that effectively weeded out incompetent practitioners. While this was an effective process, board certification for physicians appointed to volunteer regiments was overseen by individual states and not the two medical departments where the standards were far more stringent.[12] There was variability in fact in assessing competency in state board examinations as there were instances in which "many states did not administer a written examination to applicants for appointment to surgeon."[13] Assisting in the overall selection process of physicians and surgeons was the agreement that only allopathic physicians[14] would gain a commission and privilege to treat service members.[15] The Confederates followed similar protocol. While homeopaths[16] lobbied to gain a commission, they were not successful in convincing Congress to allow them to gain an appointment.[17]

Issues pertaining to public health would surface and be of concern during this war as it had been in previous wars fought on both American and foreign soil. As a result, the United States

Sanitary Commission was created by a Unitarian minister and a civilian physician[18] to address the type of public health issues that impacted the British and the French during the Crimean War (1855).[19] They would gain authority to monitor food, clothing, the encampments, sanitation and hygiene of Union troops. They would also monitor the care provided by military hospitals once their scope of power was expanded.[20] "No such well-organized instrumentality as the Sanitary Commission existed in the south."[21] However, "southern women set up hundreds of local relief societies, which collected clothing, food, and medical supplies for soldiers. Women's groups also set up wayside hospitals to provide nursing care and lodging for wounded soldiers traveling home from the front."[22] With the Confederacy ineffective in coordinating a unified effort with their states, the work by these relief societies was significant although they fell short of the efforts of the U.S. Sanitation Commission.

Issues with Possible Ethical Relevance

There are a number of issues concerning medical care provided to service members during the Civil War where violations of ethics might have occurred in accord to ethical tenets that were recognized as being standards of that day.[23] To students of American history there remains a persuasive impression that the care delivered was negligent and the surgeries performed during the war were cruel and often unnecessary. Pictures of amputated arms and legs piled up outside of field surgical units and the diaries of soldiers and nurses certainly seem to promote that standpoint. Furthermore, "from a twenty-first century perspective, many of the beliefs about the causes of disease and treatment for disease seem ignorant at best and barbaric at worst."[24] In order to come to a reasonable conclusion on the topic of medical ethics during this period of time, it is important to review specific issues that have been in dispute as to whether they

violated medical ethic standards. These issues would include the question of: disparity of care between officers and enlisted, disparity in care provided to enemy non-combatants at Union and Confederate treatment facilities, the treatment of black vice white troops, harm caused by delay of care, the lack of health care provided at prisons, unnecessary amputations, the lack of use of anesthetics and pain control, care provided by intoxicated providers and the questionable use of medications and therapeutics.

Disparity of Care

Did disparity of care really exist? It might appear that it did to patients of the day. Service member documented in their diaries their "opinion about their medical care, physicians, and hospitals that they carried with them for the rest of their lives."[25] They commonly complained of not receiving equitable care. It was their opinion that officers were generally treated better. Their perception was that officers received better care once they were separated from the wounded enlisted [26] and berthed on separate floors.[27] Additionally, they felt that officers received better care since they could use an orderly as a personal nurse.[28] In truth, officers received no better care as the same overworked medical staff tasked with providing care for the officers was also tasked with the care of the enlisted.[29] Medical outcomes were not necessarily better for officers than for enlisted for similar categories of illness or wounds.[30]

Disparity in Treatment of enemy non-combatants

A culture that promoted providing medical treatment and care to Union soldiers by the Confederacy can be traced from the foot soldier level all the way up to higher command. An example of junior soldiers providing benevolent care was Sergeant Richard Kirkland, of the

Second South Carolina Regiment at the Battle of Fredericksburg.[31] Higher up, the Surgeon General of the Confederacy, S.P. Moore, advocated for the procurement of additional space to house Union prisoners of war to reduce the spread of contagious disease and relieve prisoner suffering.[32] At the highest level, to a request made by Major General Joseph Hooker to gain access to the wounded and dead on the Chancellorsville battlefield, General Robert E. Lee responded that the ongoing battle made his request impossible but he indicated that "I will bestow to your dead and wounded the same attention which I bestow upon my own."[33]

A similar culture existed within the Union at multiple levels. In a report to higher command, Surgeon William J. Sloan advocated for improving living conditions for prisoners at the Fort Hatteras prison.[34] Up a level, Dr. Charles Tripler, Medical Director of Army of the Potomac, ensured that prisoners in Washington prisons were vaccinated, bathed regularly and allowed to exercise in order to ensure for their health.[35] At higher level, then Brigadier General Ulysses S. Grant forwarded a memorandum on the Battle at Fort Donelson which stated, "As soon as I got possession of Ft. Donelson I commenced sending the sick and wounded to Paducah … No distinction has been made between Federal and Confederate sick and wounded."[36]

Treatment of Black Troops

"By the end of the conflict, some 179,000 black soldiers and 9,500 black sailors were in uniform"[37]for the Union.[38] Black troops were often inserted into the most ferocious engagements of battle and as a result, their casualties by percentage were higher when compared to whites.[39] Unfortunately, inequality of care and prejudices existed that impacted their treatment and access to care. Physicians assigned to take care of African-American regiments were "cruel, capricious, and dismissive of the needs of the men under his supposed care."[40] Access to white hospitals was

barred. Hospitals designated for the care of black troops were often a great distance away and "consistently understaffed and badly maintained, and the patients were neglected – facts that were reflected in the high mortality rates."[41] Delays in transit to facilities further away often led to unnecessary pain and death.[42] At the end of the Civil War, "over 29,000 black soldiers died from disease during the Civil War – nine times the number that died in battle. Those who became ill died at a rate two and a half times higher than their white counterparts."[43] The care that wounded or ill black troops received at Confederate treatment facilities or Confederate prisons was found to be even worse.

Delay in Care

Given the size of the engagements, the number of participants and the rounds of fire coming from most any direction, any attempt to remove the wounded from the battlefield was likely to result in significant injury if not death. Still, many doctors attempted great acts of bravery only to end up as a casualty of war. Being a limited commodity and difficult to replace, such action was discouraged by line commanders. However, once a battle had concluded it was the duty of the physicians to comb the field and triage the wounded and direct the movement of litter bearers and ambulances to properly distribute the wounded for needed care.

In early battles the process of removing the wounded and dead from the battlefield once the active engagement of war ceased was dismal. "Men might spend days where they had fallen in battle before receiving medical care. The delay in evacuating soldiers caused thousands to die of treatable wounds and others to die from exposure to freezing temperatures, to burn to death from fires touched off by shells, or to drown in mud puddles that swelled during post battle rainstorms."[44] Individuals who were wounded but would have survived the battle often were

killed as the battle raged back to the ground where they laid. As a result the wounded that were able to move would try to walk or crawl in order to get to friendly ground.[45] Improvements in gathering and moving the wounded that were put in place by Dr. Letterman came about after establishing military control over the ambulances where non-commission officers assumed responsibility for the oversight of ambulance wagons and the designated drivers.[46] For the South, "a shortage of ambulances plagued the Confederacy throughout the war."[47] While they never instilled an ambulance system, the Confederacy was assisted by benevolent associations and civic women's groups and in some areas, by local ambulance systems such as the Richmond Ambulance Committee.[48]

For both sides, the delay in getting patients to timely care significantly impacted survivability. "Of the men who died of battle-related injuries, approximately two-thirds died on the battlefield. One-third died later, in field or general hospitals."[49] It is believed that had these men reached a hospital sooner, they would have had a much better chance for survival. Still, if a significantly greater number of men had reached the hospitals within the golden hour of care, with only a limited number of doctors and staff at the hospitals to provide care for them, it would have likely only shifted the choke point from the field to the hospitals and delays in care would have persisted there instead of at the battlefield.

Prisons

After General Ulysses S. Grant's change in policy to discontinue the prisoner exchange agreement with the Confederacy in the winter of 1863-64 in order to reduce the number of Southern soldiers returning to fight for the Confederacy[50], the prison population in the North and South began to explode. Due to funding issues and the lack of initiative to provide for prisoners

at these prisons, shelter, clothing, food and sanitation standards were often lacking. At the Andersonville, Georgia prison the only source of water was a stream that passed through the camp. It served as both the prisoner's source of drinking water and also their latrine. Sicknesses like dysentery, small pox, scurvy[51] were common and death from this and other close quarter diseases were common. While there were physicians at the prison camps, medical supplies were scarce for the number of prisoners that had become sick. The same was true for Union prisons such as Elmira, New York, where tens of thousands perished due to disease. The state of the prison conditions and the lack of medicine did not sit well with most physicians on both sides of the battle. In the South, Confederate doctors appealed to their superiors for assistance but none was to come[52] just as doctors for the Union had done with their higher command.

Amputations

The most common major surgery performed during the American Civil War was amputation with an estimated 50,000 procedures having been performed by Union and Confederate surgeons combined.[53] The large number of amputations resulted primarily from the impact of .58-caliber minie balls[54] which would shatter many inches of bone within a given limb. Due to the great loss of bone matter, surgeons would be unable to fuse the bones back together and ultimately make the limbs functional again. Further complicating the situation was the fact that this round generally left gaping wounds that if left alone would ultimately become infected.[55] While many died as a result of post-operative infection after amputation, a substantially higher number of patients died when amputations were not performed as gangrene set in and infection spread and death ensued. With many of the amputations performed at field hospitals[56], the public became aware of the sheer number of amputations through newspaper accounts and word of mouth. As a

result of the large number of amputations, public outcry over the possibility of unnecessary amputations led to hesitation by surgeons in performing these surgeries. Jonathan Letterman, Medical Director for the Army of the Potomac, however believed that the number of amputations were justified, an opinion shared by those who have studied the situation from the vantage point of the twentieth century.[57] For those that an amputation was not performed when indicated, septicemia or osteomyelitis (chronic bone infection) often occurred which resulted in fragmented bones that did not fuse back together so that the limb was incapable of functional use.[58] In the end, if death did not occur, the patient that did not have his limb amputated was subject to endure physical pain with a useless limb and only delayed the inevitable need for the amputation.

Anesthetics and Pain Control

"The most prevalent misconception about Civil War medicine is that major surgery was usually performed without using anesthesia. Nothing could be farther from the truth."[59] While anesthesia was newly introduced to a military medicine during the American-Mexican War (1846-48) and had some push back by surgeons of that era, anesthesia was being used routinely by the time of the Crimean War in 1853-56. The standard of practice in the United States prior to the Civil War was to utilize anesthesia for what little surgery was taking place in hospitals. In the decade that preceded the Civil War, medical schools instructed their students on the use of both ether and chloroform although the vast majority of them rarely utilized either in their practice.[60]

To this day the image of a patient ingesting large qualities of whiskey and or biting down on a bullet just prior to undergoing an invasive procedure[61] has been reinforced by Hollywood depiction of Civil War medicine. In actuality, wounded soldiers may have been provided a quantity of liquor to consume as a sedative followed by a dose of opium or morphine as a pain

reliever and just before undergoing their operation they were generally anesthetized with chloroform.[62] In most cases, the availability of anesthesia was usually plentiful outside of a few major battles where surgeons ran out of anesthesia due to the sheer number of casualties that overwhelmed their supply chain.[63] "Pain management was a serious concern for Civil War surgeons,"[64] who continued to administer anesthetics until their patients were insensitive to pain.[65] Supplies of morphine and opium were ample and administered at all settings of care.[66]

Intoxicated Providers

The accusation that intoxicated doctors were treating patients during the Civil War was not at all uncommon especially as it related to alcohol intoxication. Numerous post-war writings have referenced this issue, many of these published accounts of drunkenness coming from "women who served as matrons, many of whom were later prominent in the temperance movement."[67] Since doctors were responsible for procuring and maintaining alcohol and prescribing it when indicated, they had complete access to the alcohol supply. With little supervision of the physicians and surgeons there was significant potential for alcohol abuse.[68] "Doctors and attendants were frequently charged with imbibing hospital whiskey and getting drunk on duty. Certainly these accusations were sometimes valid, but the number of such instances seems to have been exaggerated."[69] Even so, "eighteen percent of all court-martial cases involving doctors mention alcohol in one form or another."[70]

Questionable Use of Therapeutics

While physicians during this era were unfamiliar with today's term of evidence-based medicine, they did apply their knowledge of the day to diagnose disease and medical conditions and prescribe medications in an attempt to return the patient to their previous state of health. During this period of time while improvements in medical education were progressing, "medical therapy had little to offer and was often as harmful as it was helpful."[71] Pharmaceutical manufacturers were producing medications that were limited in affectivity and reliable strength.[72] It is reasonable to then say that a doctor's ability to treat his or her patient in this era was limited to a great degree by the medications that were available at the time. The fact that these medications were limited in their effectiveness was not the fault of physicians who used what was available in order to facilitate for the needs of their patients. Where the problem of ethics may exist, with respect to the use of therapeutics, stems from the physician obligation to provide intervention "until something immediately visible happened"[73] with these medications. This trend of prescribing medications was taught in medical schools during this era and followed a model of applied therapeutics attributed to Dr. Benjamin Rush, renowned Philadelphia physician and signer of the Declaration of Independence, who would continue to administer large and powerful doses of therapeutics in progressively higher quantities until the desired effect was achieved.[74]

Another important issue to contemplate is the fact that many of the conditions for which patients were seeking care ran a self-limited course in that the patient would completely recover from their ailment without the introduction of a therapeutic. Doctors during this time were often compelled to prescribe a medication in order to justify their professional opinion as well as to extract a fee. In an era where many dangerous compounded medications were readily available,

was this practice a clear violation of the tenet of "first do no harm" which was known to physicians during this time? This question will be addressed later in the paper.

Analysis

Medical Ethic Standards

Medical ethic standards at the time of the Civil War were rooted in the ancient standard of the Hippocratic Oath[75] as well as European ethical writings in the 1800s. "After 1800, American physicians referred to particular aspects of the Hippocratic precepts as examples of professional ideals."[76] Along with the Hippocratic Oath, "physicians in the United States who considered the problems of medical ethics were well acquainted with the writings of Gregory, Percival and Ryan."[77] While there were no textbooks on medical ethics during this period of time[78], these teachings were commonly related in the form of "speeches, pamphlets, thesis, codes, and occasional monographs."[79] Orations were often presented in the form of an "introductory lecture or commencement speech to medical societies."[80] Lectures presented from Gregory's doctrine focused on the duties and qualifications of the physician, while lessons from Percival centered on elements of professional conduct that removed the religious virtues found in the Hippocratic Oath. Percival developed medical ethics concepts that included manners and dignity of conduct.[81] Percival also defined the duty of physicians to their patients as "guidelines from which the individual clinician must make responsible moral decisions.[82] Moreover, "the Percival code ... affirmed the profession's responsibility to care for the sick, and emphasized individual honor."[83] With due respect to the works of Gregory and Percival, the core elements for medical ethics taught in medical schools and cited by doctors during the Civil War came from the Hippocratic Oath. "The center tenet of the Hippocratic Oath to do no harm to the patient has been a constant theme in the centuries of development of medical ethics."[84] During this period of

time, the statement that physicians should provide care "for the benefit of the sick according to my ability and judgment,"[85] was a commonly emphasized derivation from the Oath. These very words were incorporated into the American Medical Association's Code of Ethics of 1847 in order to bring about clarity to the ethical role that physicians assume in the lives of their patients.[86]

While medical ethic standards were known and practiced during this period of time, "there can be no doubt, that some of the therapies used by Civil War physicians caused harm. There can even be no doubt, that some of these therapies actually contributed to, or directly resulted in, the death of their patients. However, there can also be no doubt that these same physicians were providing the best care they could, within the framework of existing medical knowledge and theory."[87] Knowledge of evidence-based medicine[88] was limited during this period of time. Consideration for patient safety was also nowhere the issue that it is today. Although doctors genuinely cared about their patients, it was still commonplace to prescribe patients high level doses of therapeutics such as a very toxic mercury-based medication like calomel when physicians knew of no sure correlation between prescribing calomel and gaining a positive health outcome.[89]

The state of war added yet another element that complicated the ability to provide ethical medical treatment to warriors both friendly and unfriendly. "Medical ethics in times of war are fundamentally different from those in times of peace. War brings military and medical values into conflict, often overwhelming other moral obligations, such as a doctor's charge to relieve suffering, in the face of military necessity."[90] Looking first at friendly forces, war at times may lead to a need to justify the suspension of a medical ethical obligation that a physician has to his or her patient. This may result during a mass casualty event where there may be a lack of

medical resources, medical supplies and medical personnel to tend to all of the wounded or ill at a given time. The overuse of resources on a gravely ill or wounded service member could very well deplete supply reserves and negatively impact the care of many less compromised service members who might benefit from the availability of those resources so that they could be restored ultimately to good health. Just the same, too much time spent on a mortally wounded warrior could very well take away precious time needed to gain a positive health outcome for others if their care would not be greatly delayed. These issues would seem to have been plausible issues faced by Civil War physicians just as they were issues morally faced by physicians and surgeons in modern wars. It would seem reasonable in a situation such as this for a physician to suspend their medical ethical obligation to their patient in such circumstance which would otherwise violate what is today termed the medical ethic tenant of *justice* or "giving each his due." This tenet advocates that health providers should distribute resources equally to all that are needed, something often of challenge in a war environment and not traditionally an issue in modern medicine as practiced in the United States. "In an ordinary clinical setting health care professionals weigh many aspects of a patient's welfare, including quality of life, dignity, and autonomy. Sometimes medicine can promote all of these simultaneously. At other times, one must choose among them."[91]

As for the enemy in war, the ethics of providing medical services by adversary doctors can also be problematic. "Whereas bioethics turns its attention to the patient, either as an individual or class of individuals, military ethics focuses on the rights and interests of three distinct actors: combatants, noncombatants, and the state."[92] A question that might come to mind is, at what point will care be rendered and not be rendered to the enemy? Ethicist Michael Gross indicates that might come when the enemy attains the status of *hors de combat* which loosely translates to

the point when the enemy is no longer considered a threat due to their physical state. Gross indicates that "once wounded and no longer a threat … they regain their right to life and to medical care. Yet once wounded enemy soldiers recover sufficiently to pose a threat, their status reverts again to that of enemy combatant,"[93] and would then no longer be eligible for care.

A question worth asking is, with respect to polarizing issues pertaining to the care delivered during the Civil War as previously discussed, was there relevant violations committed with respect to medical ethics as it was known at that time?

Disparity of Care between officers and enlisted: Providing higher order care for an officer than for an enlisted member would insinuate that the officer's life and needs would be more valued than that of an enlisted member, that the enlisted member's status would be less. If followed, there would be three potentially violated ethical tenants by today's standards: justice, beneficence and nonmaleficence. With respect to *justice*, it could be implied that the enlisted member was not given his due, namely access to equitable care and that the military class structure afforded him slower access to care or perhaps deprived him of services that an officer might have attained. If this would be implied, the enlisted member may have received a lesser dedication by the medical staff and therein was not afforded the kindness or attention to their needs. This could be seen as a lack of devotion to take care of the patient and *not doing good* on behalf of the patient which would be seen as a violation of *beneficence*. Subsequently, if this led to a negative outcome, harm could be seen as being done to the patient which is a fundamental derivation from the Hippocratic Oath and violation of the ethical tenant of *nonmaleficence*.

Disparity in the care provided at Union and Confederate treatment facilities. With respect to treatment of care provided to the enemy, Clausewitz provides a salient point for consideration

on providing for the needs of fallen adversaries: "compassion strikes the beating heart with pity, at the sight of the maimed and fallen."[94] Aside from shortages in supply that plagued both organizations, the care provided to members of their respective organizations were on par with each other, excluding discussion of black troops which will be discussed on its own. As for the care provided to the enemy, once again excluding discussion related to the black troops, there was in general a culture of beneficence as previously discussed in this paper. A question may then be asked; why was this the case? Was it because leadership at all levels knew each other? Many of the generals were graduates from West Point and many knew one another. Perhaps it was due to the fact that many of the doctors went to the same medical schools? Perhaps that answer is that culturally there was a dynamic that made individuals care for the welfare of the wounded once they were no longer a combatant threat. While it would be easy to indicate that this was a war of 'brother against brother' perhaps it was that they looked the same, spoke the same language and came from similar backgrounds so in the end despite great hostility there was a fabric of benevolence that existed between the two sides.

The treatment of black vice white troops: While research could not be found to support disparity in medical care between black officers[95] and black enlisted, evidence is overwhelming in support of medical violations that occurred on the part of the Union and Confederate medical departments when it came to providing medical services to black troops. Additionally, black troops were not afforded the same care as their white counterparts. Higher order care for these troops was available at only designated hospitals that were fewer in number and generally much farther away from the battle zones. The care at these facilities was generally substandard and often cruel which professes to violations of justice, beneficence and nonmaleficence, as discussed with respect to disparity of care between officers and enlisted.

Harm caused by delay of care: Since the act of war in itself limits access to the wounded it is important to recognize this variable when considering how it affects a physician or a medical staff in the performance of their duty. Should a physician be expected to risk their own life to save another? If the risk would likely result in their own death and thus in two deaths, theirs and the one they would be attempting to save, it is not a warranted move. In fact, by losing their own live and therein reducing the number of physicians to care for the wounded, one could surmise that they would be violating the tenet of justice because they could not be easily replaced within a wounded man's golden hour and that might have cause wounded soldiers to suffer longer.

The lack of health care provided at prisons: On the medical side, the main issue here was not a culture among medical professionals that wanted to deny care to prisoners but rather an issue of political funding and access to resources and the lack of sanitary conditions that overwhelmed the situation at many prisons. Documentation exists today that physicians on both sides made numerous requests to higher authority to gain assistance in the form of resources and manpower to improve the health and living conditions to benefit the prisoners.

Unnecessary amputations: Given the damage caused by the weapons of war and the close proximity of battle, amputations were not unnecessarily performed in order to *preserve life*, the goal of the surgeon, especially as there were no known means to effectively preserve the state of a limb as a functional appendage, relieve the physical pain that resulted from being wounded or guard against the possibility that the limb that was often infected would ultimately cause death as the infection would spread elsewhere within the body. Therefore, not performing an amputation only delayed operation to a later date and subjected the wounded to a longer period of severe pain. A physician that listened to public outcry and failed to perform an amputation

when indicated then would have violated what was referred to at the time of *not acting in the best interest of the patient.*

The lack of use of anesthetics and pain control: Outside of a few instances where there was a true shortage in some form of anesthetic due to the tempo and terms caused by war itself, surgery being performed by Union or Confederate surgeons involved utilizing proper means of anesthesia. The impression that an anesthetic was not being used came predominantly from recollections written into diaries or by word of mouth from other soldiers that believed that is what they had observed and not what they had experienced. In actuality, either chloroform or ether was administered by applying a cloth saturated with one of the anesthetics over a patient's face so that a small but effective dose of anesthetic would be effective. This act was generally not seen by a casual observer. "Too often, the experiences of Civil War soldiers have been distorted or misinterpreted, such as in one book that quotes letters of soldiers who witnessed patients being physically restrained during surgery and assumed that the procedure was done without anesthesia. Today's physicians know that the men were actually in the excitement phase of anesthesia, but these reminiscences are the basis of untrue statements that surgery was often done without anesthesia."[96] Just as this was erroneous, the term "biting the bullet" was not formulated following a wounded man's attempt to differ pain by biting down on a bullet in lieu of anesthesia, it was caused when loading his rifle a soldier inadvertently bit on the bullet end of the paper cartridge accidentally when in haste to reload his rifle.[97]

Care provided by impaired providers: There were indeed some physicians that were found to be intoxicated and unfit for duty but the number of those that were, were in deed small in number. Much of these accusations, especially for drunkenness, stemmed from negative medical outcomes for wounded where a senior line officers took a physician to court martial and testified

that the poor outcomes were a result of physician impairment and not due to the nature of the brutality of war that inflicted the fatal wounds. [98] In many instances, the courts sided with the senior officer[99] as others officers and witnesses concurred with the words of the senior member. Perhaps it is not surprising that the state of exhaustion and extreme fatigue experienced by overworked surgeons which could mimic alcohol intoxication was not brought up for relevancy in these cases. Overall, a relatively low number of Union and Confederate surgeons (estimated to be about three percent) were brought to court-martial and most of the charges centered on cowardice, consorting with prostitutes, absence without leave and these cases were often the result of the conjecture of gossip and lacked substance.[100] It has been reported in a number of sources that "many other observers, however, reported that abuse of alcohol was, if anything, less common among physicians than among other Civil War army personnel."[101]

The questionable use of medications/therapeutics: Many medications and preparations were utilized without knowing the true effect that they would have on a patient. Prescribing was based on what was passed down to the physician through their formal medical training or by the physician that had proctored their apprenticeship. Therefore, while there was variability in prescribing practice, physicians at this time followed known standards that had precedence and therefore showed some form of continuity with acceptable practice as it was known at the time. By modern standards since knowledge of indications and the side effects for a given medication are well understood, the prescribing of therapeutics today in the fashion that they were prescribed back then would be considered to be negligent. Still, in that day, should a medication of questionable use be prescribed? If the doctor knew that a specific medication could cause both good and harm but that the prevailing opinion that the risk of not prescribing the medication would cause greater harm, then the physician was in the right to prescribe the therapeutic as long

as the patient understood that there were risks and benefits to utilizing the medication. In such a case the physician would be respecting a modern tenant of medical ethics known as *autonomy*, which advocates for involving a patient in their own healthcare decisions. During the Civil War itself, the incapacity of many service members to understand risks and benefits of a medication or to be in the frame of mind to participate in decision making was not always possible.

Conclusion

It is worth discussing the fact that while post-war writings give us an insight to these remarkable times, some of these writings might not accurately account for the events as they truly happened. This might very well be the case for the delivery of medical care during the Civil War. According to Carol Reardon, the George Winfree Professor of American History at Pennsylvania State University, the post-war era of the 1880s and 1890s was a period of national healing, both Union and Confederate soldiers often decided not to dredge up examples of cruelty that existed between both sides and instead presented instances where compassion existed between the two sides. Today, many of the stories told about soldiers providing palliative care to the enemy have been proven to be bogus.[102] Examples such as "soldiers in Blue and Gray mingling between the lines at Spangler's Spring at Gettysburg, filling their canteens and sharing water with the wounded, is totally false. Recently, the Kirkland story at the Battle of Fredericksburg has come under scrutiny. Apparently it cannot be located in any wartime source; the first time the story pops up is in the 1880s."[103] Dr. Reardon further explained that few soldiers rarely attempted to venture out of the battlefield especially to go into no-man's land since, "the pickets have itchy fingers and will shoot at any sound or shadow, regardless of intentions."[104]

With respect to the culture of higher command for the welfare of wounded soldiers, while documentation exists with respect to benevolence between the Union and Confederacy, it cannot be said that this occurred at all times. "Lee and Grant did not have a sterling record on care for the wounded. Grant, in particular, refused several requests for a truce in the middle of battles to permit the wounded to be removed from the field. At Spotsylvania and again at Cold Harbor, he refused Lee's request for a truce and allowed the wounded and dead trapped between the lines to suffer for days in the hot sun."[105]

Stories of physicians frequently reaching across enemy lines to help each other out appear to be exaggerated. Overworked physicians and surgeons on the same side often failed to extend themselves to provide care for friendly wounded combatants.[106] Therefore, it can be said that there was variability at all levels in how the two sides interacted with each other as well as how members on the same side took care of their own service members.

It is hard to discount the number of documented accounts in books and diaries that collaborated cases of benevolence for "friendly" and enemy service members. Why was this? One proposed reason for the willingness to assist an adversary is rooted in "humanitarian sensibility" which was founded in a common religion based doctrine. "Both 'Rebels' and 'Yankees' were by and large raised from the cradle to grave on the same fundamental values and principles contained within the Judeo-Christian Bible"[107], and therefore the "scenes of the maimed, wounded, and dying, as well as their cries of distress and pain, caused many a veteran soldier on both sides to forget his own safety or welfare to administer aid or comfort to the enemy in need."[108] With the enemy wounded and no longer a combatant threat, it likely made them willing to provide necessary care.

The Civil War posed great challenges to those that provided for the care and wellbeing of an unprecedented number of sick and wounded at a time that medicine was in its infancy. Physicians entered the war with little to no experience in surgery and left the war as experienced surgeons who contributed to the advancement of medicine through their writings and instruction of new doctors at schools of medicine. Many processes were improved to help the public. This included improvements in public health, the advancement of ambulance systems and the building of pavilion style hospitals. Had knowledge of antiseptic practice been known at the time and had antibiotics been available to treat the sick, the death toll that resulted in this war would have been far less as later seen in World War I. The one black eye that stands out with respect to violations in medical ethics was without doubt the treatment of the United States Colored Troops that occurred at the hands of both Union and Confederate medical department. It is clear that the conduct elicited by healthcare workers with respect to their care and wellbeing was irreprehensible and a violation of ethical standards. Without belittling this issue but looking at the medical care delivered as a whole during those days, it is remarkable what was accomplished by so few, who did the best with what they had, under the conditions that were presented to them.

Citations

[1] Alfred Jay Bollet. *Civil War Medicine, Challenges and Triumphs*. (Tucson, AZ: Galen Press, Ltd., 2002), 38.

[2] Bollet, 81.

[3] William H. Taliaferro. *Medicine and The War*. (Chicago: The University of Chicago Press, 1944), 16.

[4] Rosemary Stevens. *American Medicine and the Public Interest*. (Berkley, CA: University of California Press, 1998), 26-27.

[5] Bollet, 57.

[6] Stevens, 28.

[7] Leiyu Shi and Douglas A. Singh. *Delivering Health Care in America: A Systems Approach*. (Sudbury, MA: Jones and Bartlett Publishers, 2008), 89.

[8] William G. Rothstein. *American Medical Schools and the Practice of Medicine*. (New York: Oxford University Press, Inc, 1987), 55. This was at a time before hospital apprenticeship began and medical students were generally proctored by "local practitioners who were ill-equipped in education and training".

[9] Rothstein, 53. These examinations did not effectively evaluate competency of a candidate for graduation for their potential to practice and they minimally ascertained the depth of medical knowledge the new graduate had attained.

[10] Bollet, 81-83. This is the reason that few surgeons who served in the war had prior surgical experience.

[11] Bollet, 57. Both the Union and Confederacy had small navy medical departments who faced similar issues with respect to manning, funding and medical outcomes as their army counterparts. For the purpose of keeping this paper focused to the significantly larger number of sick and wounded faced by the two armies, this paper will reflect only the care delivered by both army medical departments.

[12] Bollet, 57.

[13] Thomas P. Lowry and Jack D. Walsh. *Tarnished Scalpels*. (Mechanicsburg, PA: Stackpole Books, 2000), xxiii. On the other hand, other states proctored extensive examinations to determine competency and provide legitimacy to the surgeons and physicians to whom they entrusted to care for the men that represented their state.

[14] Allopaths are traditional medical practitioners that are today known as Doctors of Medicine (M.D.).

[15] Ira Rutkow. *Seeking the Cure: A history of medicine in America*. (New York: Scribner, 2010), 95.

[16] Homeopaths are medical practitioners that followed a more holistic approach to care, one that was less based on pharmaceutical therapies. Today however, their treatment approach is more aligned to traditional medicine. Their training programs confer the degree of Doctor of Osteopathic Medicine (D.O.).

[17] Rutkow, 96.

[18] Adams, 5.

[19] Bollet, 10.

[20] Adams, 7-8.

[21] Francis Trevelyan Miller and Robert Sampson Lanier. *The Photographic History of the Civil War*. (New York: The Review of Reviews Co., 1911), 340.

[22] Margaret E. Wagner, Gary W. Gallagher and Paul Finkelman. *The Library of Congress Civil War Desk Reference*. (New York: Simon and Shuster Paperbacks, 2002), 663.

[23] Appendix One provides the classic Hippocratic Oath in its classic form as known during the period of the Civil War. The Principles of Biomedical Ethics as defined by Beauchamp and Childress (1994), commonly held as today's standard, is contained in Appendix Two.

[24] Carol C. Green. *Chimborazo, the Confederacy's largest hospital*. (Knoxville, TN: The University of Tennessee Press, 2004), 107.

[25] Green, 65.

[26] Glenna Schroeder-Lein. *The Encyclopedia of Civil War Medicine*. (Armonk, NY: M.E. Sharp, Inc, 2008), 155.

[27] Schroeder-Lein, 155.

[28] Adams, 69.

[29] U.S. Army Manual for the Medical Department. (Washington: Government Printing Office, 1861), 18.

[30] Schroeder-Lein, 155.

[31] John William Jones. *The Life and Letters of Robert Edward Lee: Soldier and Man*. (New York: The Neale Publishing Company, 1906), 209.

[32] Robert E. Denney. *Civil War Medicine; Care and Comfort of the Wounded*. (New York: Sterling Publishing Company, 1994), 38. Sergeant Richard Kirkland asked for and was granted permission from his commander, General Joseph Kershaw permission to tend to Federal wounded that were positioned between the lines in front of Marye's Hill.

[33] Robert N. Scott. *War of the Rebellion: A Compilation of the Official Records of the Union and Confederate Armies*. United States War Department. (Washington, DC: Government Printing Office, 1889), 432.

[34] Denney, 47.

[35] Denney, 42.

[36] Denney, 77. The statement could be evaluated as being significant and an impressive gesture given the fact that the estimated number of casualties for the Union at Fort Donelson was roughly 2,500 men while the Confederate suffered approximately 14,000 to 15,000 casualties. If Grant's words were true to his higher authority, a great deal of resources needed to be utilized and expended to provide care for this large number of adversaries when subsequent battles were expected to yet be fought.

[37] Richard M. Reid. *Freedom for Themselves: North Carolina's Black Soldiers.* (Chapel Hill, NC: The University of North Carolina Press, 2008), xii.

[38] While blacks pledged to fight for the Confederacy they did not participate in any battle as the war ended before they saw combat.

[39] Margaret Humphreys. *Intensely Human, the health if the Black Soldier in the American Civil War.* (Baltimore, MD: The Johns Hopkins University Press, 2008), 11.

[40] Humphreys, 57.

[41] Wagner, 637-638.

[42] Joseph Glatthaar. *The Civil War's Black Soldiers.* Eastern National Park and Monument Association, 1996, 42.

[43] Wagner, 637. The disparity in care provided to black troops can be seen in Union medical statistics that recorded that "in Vicksburg, for example, during the same period, 30.5 percent of the black patients died, but the white mortality rate was only 14 percent."

[44] Scott Reynolds Nelson and Carol Sheriff. *A People at War.* (New York: Oxford University Press Inc., 2008), 107.

[45] Nelson, 120. Early in the war evacuation of the injured was not well orchestrated and the process for facilitating the wounded for higher order care was not standardized. While it is reasonable to rationalize a delay for care due to limited access caused by ongoing warfare, the same cannot be said for what occurred after casualties were gathered and ambulances manned by civilians disregarded the welfare of soldiers and failed to deliver them to designated hospital due to drunkenness.

[46] David G. Martin. *The Shiloh Campaign: March-April 1862.* (Cambridge, MA: Da Capo Press, 1996),190.

[47] Wagner, 633.

[48] Wagner, 663. "Formed by men exempt from military duty, the Richmond Ambulance Committee helped to tend, feed and transport wounded Confederate soldiers to hospitals in the interior. The members' contributions paid all expenses, and they were present at nearly every engagement of the Army of Northern Virginia, including Williamsburg, Chancellorsville, and Gettysburg."

[49] Mark Schaadt, *Civil War Medicine.* (Quincy, IL: Cedarwood Publishing, 1998), 30.

[50] Philip W. Parsons and Mac Wyckoff. *The Union Sixth Army Corps in the Chancellorsville Campaign.* (Jefferson, NC: McFarland and Company, 2006), 213.

[51] Robert Knox Sneden. *The Eye of the Storm.* (New York: Touchstone, 2000), 227.

[52] Sneden, 227.

[53] Schaadt, 50.

[54] The .58-caliber minie ball was a conically shaped lead bullet that measured over a half-inch in diameter. It was fired from a rifle-musket and was more accurate in hitting a target consistently from a farther distance.

[55] Wagner, 634.

[56] Please see Image 1 on page 41. The outdoor surgical setting allowed for no privacy to surgical practice.

[57] Adams, 131-132.

[58] Adams, 132.

[59] Bollet, 76.

[60] Few surgeries were performed outside of hospitals and few surgeries were performed in general.

[61] Bollet, 79.

[62] Wagner, 634-635.

[63] Bollet, 80.

[64] Schaadt, 73.

[65] Bollet, 81.

[66] Schaadt, 73.

[67] Bollet, 323-324.

[68] Donald Cartmell. *The Civil War Up Close*. (Franklin Lakes, NJ: The Career Press, 2005), 135.

[69] Schroeder-Lein, 228.

[70] Cartmell, 135.

[71] Bollet, 38.

[72] Freemon, 24-25.

[73] Freemon, 24-25.

[74] Freemon, 25. For example, if a patient was typically prescribed calomel for constipation or bowel obstruction and if the desired effect was not achieved; more calomel would be given. Since this was a common practice patients often developed facial deformities, tooth loss and other sicknesses as the mercury based calomel led to poisoning that often resulted in death especially when this form of prescribing took place. Although the pharmacodynamics of this preparation was not known to physicians, would prescribing a medication with known side effects be considered ethically wrong?

[75] The classic form of the Hippocratic Oath is located in Appendix 1 on page 40.

[76] Henry E. Turner. *A Discourse Read Before the Rhode Island Medical Society, On Their Anniversary, September 1813*. (Newport, RI: Mercury Office, 1813), 8-9.

[77] Chester R. Burns. "Medical Ethics in the United States Before the Civil War". Ph.D. dissertation, Johns Hopkins University, 1969; 38.

[78] Medical ethics today is based on tenets of ethics held in the 1860's. Today's medical ethics include provisions for confidentiality and the patient's right to be involved in his/her own healthcare decision-making. A summary of today's medical ethic standards can be found in Appendix 2 on page 40.

[79] Burns, ii.

[80] Burns, 44.

[81] Robert M. Veatch. *Medical Ethics*. (Sudbury, MA: Jones and Bartlett Publishers, Inc., 1997), 9.

[82] Veatch, 19.

[83] Olga Dreeben. *Patient Education in Rehabilitation*. (Sudbury, MA: Jones and Bartlett Publishers, Inc., 2010), 296.

[84] Sheila A. M. McLean. *First Do No Harm*. (Burlington, VT.: Ashgate Publishing Company, 2006), 83.

[85] Veatch, 6.

[86] Kayhan Parsi and Myles N. Sheehan. *Healing As Vocation*. (Lanham, MD.: Rowman and Littlefield Publishers, Inc., 2006), 25.

[87] Schaadt, 86.

[88] *Evidence-based medicine* is the practice of providing interventional medical care that has been proven to lead to positive medical outcomes.

[89] Freemon, 26.

[90] Michael L. Gross. "*Mapping the Moral Dimensions of Medicine and War*". The Hastings Center Report. Hastings-on-Hudson: Nov/Dec 2004. Vol. 34, Iss. 6; pg. 22

[91] Gross, 25.

[92] Gross, 22.

[93] Gross, 23.

[94] Carl Von Clausewitz. *On War*. (London, U.K.: N. Trubner, 1873), 37.

[95] http://www.archives.gov/education/lessons/blacks-civil-war/. Retrieved February 20, 2011. There were nearly 80 commissioned black officers during the Civil War.

[96] Bollet, 79.

[97] Please refer to Image 2 on page 41.

[98] Cartmell, 135.

[99] Cartmell, 135.

[100] Schroeder-Lein, 228.

[101] Bollet, 324.

[102] Carol Reardon, e-mail message to author, December 12, 2010.

[103] Carol Reardon, e-mail message to author, December 12, 2010.

[104] Carol Reardon, e-mail message to author, December 12, 2010.

[105] Carol Reardon, e-mail message to author, December 12, 2010.

[106] Carol Reardon, e-mail message to author, December 12, 2010.

[107] Daniel N. Rolph. *My Brother's Keeper: Union and Confederate Soldier's Acts of Mercy During the Civil War.* (Mechanicsburg,PA: Stackpole Books, 2002), 2.

[108] Rolph, 3.

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Illustration 1: Culture of benevolence

Confederate and Union doctors after the Battle of Antietam
(Eyewitness drawing of doctors from oppositing sides shaking hands near Dunker Church).
http://www.northcountryny.com/truce.jpg

Appendix 1:

The Hippocratic Oath: Classical Version

I swear by Apollo Physician and Asclepius and Hygieia and Panaceia and all the gods and goddesses, making them my witnesses, that I will fulfill according to my ability and judgment this oath and this covenant:

To hold him who has taught me this art as equal to my parents and to live my life in partnership with him, and if he is in need of money to give him a share of mine, and to regard his offspring as equal to my brothers in male lineage and to teach them this art—if they desire to learn it—without fee and covenant; to give a share of precepts and oral instruction and all the other learning to my sons and to the sons of him who has instructed me and to pupils who have signed the covenant and have taken an oath according to the medical law, but no one else.

I will apply dietetic measures for the benefit of the sick according to my ability and judgment; I will keep them from harm and injustice.

I will neither give a deadly drug to anybody who asked for it, nor will I make a suggestion to this effect. Similarly I will not give to a woman an abortive remedy. In purity and holiness I will guard my life and my art.

I will not use the knife, not even on sufferers from stone, but will withdraw in favor of such men as are engaged in this work.

Whatever houses I may visit, I will come for the benefit of the sick, remaining free of all intentional injustice, of all mischief and in particular of sexual relations with both female and male persons, be they free or slaves.

What I may see or hear in the course of the treatment or even outside of the treatment in regard to the life of men, which on no account one must spread abroad, I will keep to myself, holding such things shameful to be spoken about.

If I fulfill this oath and do not violate it, may it be granted to me to enjoy life and art, being honored with fame among all men for all time to come; if I transgress it and swear falsely, may the opposite of all this be my lot.

Translation from the Greek by Ludwig Edelstein. From The Hippocratic Oath: Text, Translation, and Interpretation, by Ludwig Edelstein. Baltimore: Johns Hopkins Press, 1943.

Appendix 2:

Beauchamp and Childress (1994): Principles of Biomedical Ethics

Ethical Principles	Definition of the Principles
Autonomy	Respect for a person's right to make his or her own decisions.
Beneficence	Doing good for the patient. Acting in the patient's own best interest.
Nonmaleficence	Avoiding "doing harm" to the patient.
Justice	"Giving to each his due".
Utility	Obligation to produce a net balance of benefits over harms.
Fidelity	Obligation to keep promises and contracts.
Confidentiality	Obligation to respect privacy and to protect confidential information.

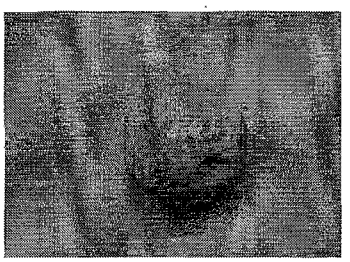
Robert M. Veatch. *Medical Ethics*. (Sudbury, MA: Jones and Bartlett, 1997), 33.

Image 1: Use of anesthesia

A Stereoscopic image of an amputation following the Battle of Gettysburg (July 1-3, 1863). The photo depicts field hospital procedures during daylight hours. In this photograph anesthesia is being delivered by a drop cloth method (by the fifth individual standing from the left) as the surgeon begins to amputate the right leg and his assistant hold the leg that is being amputated. Note: Due to the advantage of utilizing natural light in a field hospital setting, surgeries such as this one provided a spectacle for outside observation.

- Image: Levi Mumper. Co. I, 127th PA Volunteers.

Image 2: "Bite-the-bullet"



So-called medical *chewed* or *pain* bullets are mis-identified. An easily swallowed bullet is the last thing that one would want to put in the mouth of any anxious patient. To *bite the bullet* is not a medical phrase, rather it is an old military term referring to loading a muzzleloader. The tip of a preloaded ball and powder paper cartridge was opened with the soldier's teeth, the powder and ball were then poured into the muzzle, the paper cartridge, itself, came next as packing, lastly, all was tamped down with a ram rod. In the heat of battle, it is possible that soldiers may have bitten the paper cartridge at the wrong end (bullet end) and this may have caused some of the marks.